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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,991	03/07/2005	Penne J. Hout	62531A	7616

109 7590 12/28/2006  
THE DOW CHEMICAL COMPANY  
INTELLECTUAL PROPERTY SECTION,  
P. O. BOX 1967  
MIDLAND, MI 48641-1967

EXAMINER
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CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/526,991	<b>Applicant(s)</b> HOUT ET AL.	
	<b>Examiner</b> Victor S. Chang	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/7/05</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicants' election with traverse of Group I (product claims 1-13) in the reply filed on 11/14/2006 is acknowledged. The traversal is on the ground(s) that US 6319962 fails to anticipate or render obvious the amount of halogen in the presently claimed invention. However, the basis of rejection of the present Office would have rendered claims 1-13 lack an inventive step as set forth below, so the restriction requirement is maintained. Additionally, Applicants have elected polyisocyanurate foam as Species A, and a composite free of residual halogenated blowing as Species D. Finally, applicants' clarification regarding the distribution of fibers is persuasive that a uniform fiber distribution throughout recited in claim 12 encompasses the recited ranges of fiber distribution in claims 2 and 11, the election requirement for claims 2 and 11 are withdrawn. In summary, product claims 1-13 are elected. Method claims 14-19 are withdrawn.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 2 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. [US 6248802].

Singh's invention relates to a polyisocyanurate foam [col. 2, line 19-45; col. 6, lines 14-41; col. 5, lines 44-45]. The foams are known to have structural, thermal insulation and fire retardation properties for use as a building material. The reaction system may comprise one or more auxiliary agents or additives as needed for one or more particular purposes, such as flame retardants including tris(2-chloropropyl)-phosphate), tetrabromophthalate esters, and glass fibers, etc. The amount of auxiliary materials or additives is generally between about 0.1 to about 20 wt% based on 100 wt% of the total foam formulation. Suitable blowing agents include hydrocarbon such as isopentane, n-pentane, cyclopentane and mixtures thereof.

For claims 1, 2 and 7-12, Singh lacks a teaching that the building material has an exposed metal facing. However, the Examiner takes an Official notice that it is common that a building panel is formed of a polyisocyanurate foam having structural, thermal insulation and fire retardation properties with an aluminum facer as an outer protective layer and also provides an improved thermal insulation property, hence it would have been obvious to one skilled in building panel to add an aluminum facer to Singh's building material, motivated by the desire to obtain a beneficial product improvement. Regarding the residual amount of halogenated blowing agent, Singh's teaching of hydrocarbon blowing does not result in residual halogenated blowing agent. Regarding the distribution of the fire-retarding fiber (glass fiber), since Singh teaches the additives are mixed in the reaction system prior to the formation of the polyisocyanurate foam, a uniform distribution of the glass fiber in the resulted foam is reasonably considered to be an inherent feature of the reaction mixture, because a uniform

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mixture is inherently required for the reactants to be reacted properly. Finally, regarding the Burn Test, since Singh teaches all the composition as claimed, a suitable Burn Test result is reasonably considered to be an obvious routine optimization to one skilled in the art of flame retardant polyisocyanurate foam, motivated by the desire to obtain a required flame retardancy for building use.

For claim 13, since Singh teaches generally the same composition for the same use as the instant invention, a suitable foam thickness is also reasonably considered to be a routine optimization to one of ordinary skill in the art, motivated by the desire to obtain an adequate thermal insulation property.

4. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. [US 6248802] either evidenced by, or in view of, Swab [US 5102919].

The teachings of Singh are again relied upon as set forth above.

For claims 3-6, Singh's teaching of the tetrabromophthalate esters reads on the claimed tetrabromophthalate diols, as evidenced by Swab. More particularly, Swab's invention relates to polyisocyanate foam, and teaches that suitable aromatic polyesters includes commercially available tetrabromophthalate diols. It appears that tetrabromophthalate diols is either a species of tetrabromophthalate esters genus family, or they are equivalent terms.

Alternately, since Swab teaches that tetrabromophthalate diols is a suitable aromatic esters for forming polyisocyanurate foam, it would have been an obvious selection to one of ordinary skill in the art of polyisocyanurate to incorporate it in the reaction mixture, because the selection of a known material based on its suitability for its intended use supported a *prima facie* obviousness determination. See MPEP § 2144.07.


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***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Victor S Chang  
Examiner  
Art Unit 1771

12/21/2006